

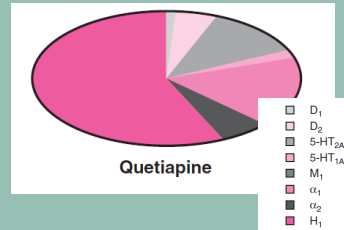
# ATYPICALS FOR AGITATION

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Dopamine D <sub>2</sub>	Mediation of <b>positive</b> psychotic symptoms (hallucinations, delusions) Adverse effects: <b>Extrapyramidal symptoms</b> and prolactin levels
Serotonin 5-HT <sub>2A</sub>	Balances D <sub>2</sub> blockade and <b>attenuates extrapyramidal symptoms</b> ; Possible role in circadian rhythm and hallucinations
Serotonin 5-HT <sub>1A</sub>	Possible role in anxiety, cognition, mood
Serotonin 5-HT <sub>7</sub>	Possible role in circadian rhythm, mood, thermoregulation, learning, memory, and endocrine regulation
α-Adrenergic α <sub>1</sub>	Adverse effects: Dizziness, drowsiness, <b>orthostatic hypotension</b>
Histamine H <sub>1</sub>	Adverse effects: <b>Sedation</b> , weight gain, impaired cognition
Muscarinic M <sub>1</sub>	Adverse effects: Deficits in memory and cognition, <b>constipation</b> , blurred vision, dry mouth, drowsiness, <b>tachycardia</b> , urinary retention

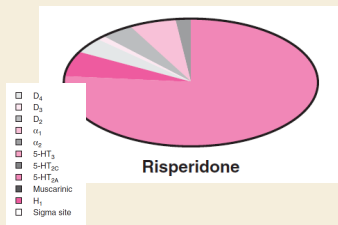
## QUETIAPINE (SEROQUEL)

- Similar to clonazepam
- EPS extremely rare
- Orthostatic hypotension (alpha blocker)
- Weight gain / somnolence (H1)
- 0.8% seizure risk
- Liver metabolism (CYP3A4)
- QTc prolongation possible



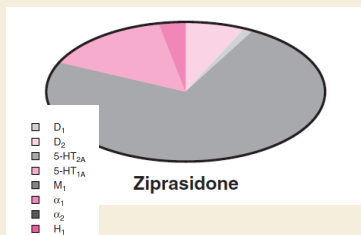
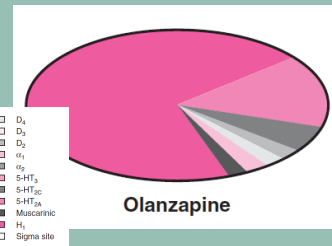
## RISPERIDONE

- Combined 5-HT<sub>2A</sub> / D<sub>2</sub> antagonist
- D<sub>2</sub> antagonism in limbic system--treats hallucinations/delusion/abnormal movement
- 5-HT<sub>2</sub> antagonism in mesocortical tract--treats negative symptoms (flat affect, etc.)
- Hypotension possible (alpha-1 blockade)
- EPS ~ 2%, seizures ~ 0.3%
- QTc prolongation (worse in elderly)



## OLANZAPINE (ZYPREXA)

- Moderate 5-HT<sub>2c</sub> activity (anxiolysis)
- Weight gain possible (prolactin release)
- Postural hypotension (>5%)
- Hepatic enzyme elevation (>9%)
- Diabetes?
- QTc prolongation rare

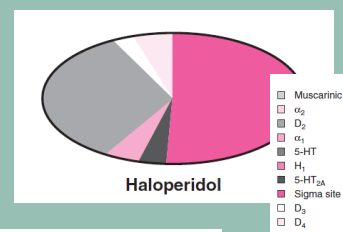


## ZIPRASIDONE (GEODON)

- High 5-HT<sub>2</sub> : D<sub>2</sub> receptor blockade ratio
- Weak anticholinergic
- Better profile in elderly?
- No change in glucose
- QTc prolongation possible

## HALOPERIDOL (HALDOL)

- Combined 5-HT<sub>2A</sub> and D<sub>2</sub> antagonism
- Limbic system: D<sub>2</sub> effects
- Mesocortical: 5HT<sub>2</sub>
- Alpha-blockade / hypotension
- QTc prolongation (worse in elderly)



Atypical antipsychotic	Dopamine			Norepinephrine		Histamine I	Acetylcholine	Serotonin 5-HT <sub>2A</sub>
	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	α <sub>1</sub>	α <sub>2</sub>			
Clozapine	+	+	+	+	+	+	+	+
Risperidone	+	+	+	+	+	+	0	+
Olanzapine	+	+	+	+	+	+	+	+
Sertindole	+	+	?	+	+	+	+	+
Quetiapine	+	+	0	+	+	+	0	+
Ziprasidone	+	+	?	+	0	+	0	+

Note: + = drug blocks receptor, 0 = drug does not block receptor, ? = effects at receptor unknown.